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EXAMINER

ALEJANDRO, RAYMOND

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NOTIFICATION DATE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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Response to Arguments

1. Applicant's arguments filed 04/25/08 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies [i.e., (i) "*in a location having a concentrated and mechanically-applied stress...*", and (ii) "*it is not merely the inclusion of a curved portion in a negative electrode lead, but the arrangement of the current interrupter in the curved portion, thus improving the operation of the current interrupter*"] are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant's arguments are not commensurate in scope with the present claims. The claimed invention only requires that "*the current interrupter causes disconnection when an over-current flows*"; "*the current interrupter is arranged in the curved portion of the negative electrode lead*"; and "*the current interrupter has a cross-sectional area that is smaller than a cross-sectional area of an adjacent portion of the planar portion*". There is nothing specific about the arrangement of the current interrupter as implied by the applicant. Any current interrupter placed in, near by or in proximity to the curved portion of the negative electrode lead would suffice to attain the same functionality.

Moreover, whether the current interrupter is directly or indirectly affected by the location having a concentrated and mechanically-applied stress is not the issue under contention because applicant is not claiming so. That is, the present claims do not specify that the current interrupter is placed exactly on the location with the highest level and concentration of stress. The examiner

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does not see that in the invention at hand. The examiner's posture in his previous actions concerning the effect of the stress of the curved portion was raised to let the applicant know that the combination of the curved portion and the so-called current interrupter in the prior art would have the same effect as the combination claimed by the applicant. The examiner never used the language "*in a location having a concentrated and mechanically-applied stress*" as implied by applicant. In view of this argument, it is apparent to the examiner that applicant's invention might require such a level/degree of stress in combination with the current interrupter at the curved portion so as to achieve the argued mechanical advantages. If that is the case, the criticality claimed by the applicant lacks sufficiency.

3. In response to applicant's argument that "*Rather, applicant establishes by the Declaration that the reasoning of Dailey and Seid are not applicable since there is a significant or critical reasons for arranging the negative electrode lead as claimed*", the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). As a clarifying matter, in terms of structural configuration, applicant's claimed invention does not differ significantly from the prior art configuration as formulated by the Examiner. With that said, and in addition to all other arguments infra and supra concerning the current interrupter in the curved portion of the negative electrode lead, it should be commented that applicant's apparent "*significant or critical reasons*" are no more than another advantage flowing naturally from the suggestion of the prior art. That is, applicant's "*significant or critical reasons*" is just an identification of the synergistic effect of his current interrupter and curved portion. Thus, in the same manner that the applicant's

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current interrupter and the curved portion apparently offer the argued mechanical advantage (synergistic effect), the prior art lead having a curved portion with a current interrupter therein would also offer the same synergistic effect.

4. Applicant continues to contest that that “*the arrangement of the current interrupted in the curved portion of the negative electrode lead offers mechanical advantages over the cited references. Such mechanical advantages are described in the Declaration of 09/05/07. Applicant declares that ‘in the case of over-current, the arrangement of the reduced cross-section current interrupter 36a in the higher-stress curved portion of the negative electrode lead 36 would best ensure a disconnection at the current interrupted 36a’and that mechanical weakening of the current interrupter due to the generated heat causes the current interrupter to break or disconnect from the negative electrode lead quickly to avoid an explosion from thermal runaway’(See applicant’s amendment and declaration dated 09/05/07) ”.*

In reply, the examiner simply contends that TO BE OF PROBATIVE VALUE, ANY OBJECTIVE EVIDENCE SHOULD BE SUPPORTED BY ACTUAL PROOF (***See MPEP 716.01(c) Probative Value of Objective Evidence***). Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art. See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) and *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *Ex parte George*, 21 USPQ2d 1058 (Bd. Pat. App. & Inter. 1991).

Furthermore, evidence of unexpected results must be weighed against evidence supporting prima facie obviousness in making a final determination of the obviousness of the

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claimed invention. In re May, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978) (*See MPEP 716.02(c) Weighing Evidence of Expected and Unexpected Results*). To that end, “*Expected beneficial results are evidence of obviousness of a claimed invention, just as unexpected results are evidence of unobviousness thereof.*” In re Gershon, 372 F.2d 535, 538, 152 USPQ 602, 604 (CCPA 1967).

Presently, to contend the prima-facie case of obviousness set forth by the Examiner based upon prior legal decisions establishing that the shape of a product is unpatentable (in the absence of objective evidence showing that such a shape or configuration is significant or critical), applicant has now provided a declaration to advance the foregoing including the following statement: “*the arrangement of the current interrupter in the curved portion of the negative electrode lead offers mechanical advantages over the cited references*” and has further pointed out that such a particular shape has the advantage of “*creating a spring effect and to ensure electrical contact between the negative electrode lead 36 and the negative electrode terminal because the stress is greater in the curved portion than in the planar portion of the negative electrode lead 36 due to a P-delta effect that results from a deflection caused by axial loading*” and “*would best ensure a disconnection at the current interrupter in the event if increased resistance*”. Having carefully analyzed the weight of the body of evidence, the Examiner is still of the view that applicant’s statement are not sufficient to overcome the prior art of record when taken together with the settled law. The Examiner remains of the opinion that the apparent mechanical advantages mentioned above by the Applicant are **completely expectable** when a change in shape or configuration does occur. The fact that stress is greater at the curved portion instead of the other parts of the negative electrode lead is something that necessarily occurs

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therein because a force or pressure is being applied to that specific location (i.e. the curved portion). Thus, whatever final result the stressed (curved) portion has on the functionality of the electrode assembly, or ultimately the battery, is something directly associated with the force exerted on that portion. As such, other than miscellaneous changes or results, there is nothing particularly significant or critical associated with the change in shape so as to convey a clear idea that the re-shaping of the negative electrode lead produces significant advantages or unexpected results. Thus, the Examiner reasonably believes that applicant's change in shape (the claimed curved portion) does not add to the novelty of the invention in question to the point of affirming critical mechanical advantages other than the ones fully expectable to the concentration of energy (pressure or force) on the curved portion.

The evidence relied upon should establish “*that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance.*” Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992) (Mere conclusions in appellants' brief that the claimed polymer had an unexpectedly increased impact strength “are not entitled to the weight of conclusions accompanying the evidence, either in the specification or in a declaration.”); Ex parte C, 27 USPQ2d 1492 (Bd. Pat. App. & Inter. 1992) (Applicant alleged unexpected results with regard to the claimed soybean plant, however there was no basis for judging the practical significance of data with regard to maturity date, flowering date, flower color, or height of the plant.). See also In re Nolan, 553 F.2d 1261, 1267, 193 USPQ 641, 645 (CCPA 1977) and In re Eli Lilly, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990) as discussed in MPEP § 716.02(c).

Finally, an affidavit or declaration under 37 CFR 1.132 must compare the claimed subject matter with the closest prior art to be effective to rebut a prima facie case of obviousness. In re Burckel, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979); In re Merchant, 575 F.2d 865, 868, 197 USPQ 785, 787 (CCPA 1978); In re Finley, 174 F.2d 130, 81 USPQ 383 (CCPA 1949); & In re Armstrong, 280 F.2d 132, 126 USPQ 281 (CCPA 1960).

MPEP 2144 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale

establishes the following: *As discussed in MPEP § 2144, if the facts in a prior legal decision are sufficiently similar to those in an application under examination, the examiner may use the rationale used by the court. Examples directed to various common practices which the court has held normally require only ordinary skill in the art and hence are considered routine expedients. If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.* As of the issuance of this final rejection, applicant has not asserted or demonstrated a crystal clear criticality for the claimed modification other than commenting that “*the arrangement of the current interrupter in the curved portion of the negative electrode lead offers mechanical advantages over the cited references*”.

However, in a first aspect, as mentioned above, it would be completely expectable to achieve the level of disconnection in the event of increased resistance because when the change in shape takes place at the portion of the negative electrode lead to form the claimed curved portion the application of force or pressure increases the stress level at that specific portion (i.e. the curved portion). Thus, the disconnection advantage is not so significant as it is directly related to the applied force or pressure. It is kind of an expectable effect-result scenario.

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Pressure or force affects the negative electrode lead, and it produces the result of concentrating stress at a particular location.

MPEP 716.02(c) [R-2] Weighing Evidence of Expected and Unexpected Result sets forth the following:

- *The evidence relied upon should establish “that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance.” Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992) (Mere conclusions in appellants’ brief that the claimed polymer had an unexpectedly increased impact strength “are not entitled to the weight of conclusions accompanying the evidence, either in the specification or in a declaration.”); Ex parte C, 27 USPQ2d 1492 (Bd. Pat. App. & Inter. 1992) (Applicant alleged unexpected results with regard to the claimed soybean plant, however there was no basis for judging the practical significance of data with regard to maturity date, flowering date, flower color, or height of the plant.). See also In re Nolan, 553 F.2d 1261, 1267, 193 USPQ 641, 645 (CCPA 1977) and In re Eli Lilly, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990) as discussed in MPEP §716.02(c).*
- *“Expected beneficial results are evidence of obviousness of a claimed invention, just as unexpected results are evidence of unobviousness thereof.” In re Gershon, 372 F.2d 535, 538, 152 USPQ 602, 604 (CCPA 1967) (resultant decrease of dental enamel solubility accomplished by adding an acidic buffering agent to a fluoride containing dentifrice was expected based on the teaching of the prior art); Ex parte Blanc, 13 USPQ2d 1383 (Bd. Pat. App. & Inter. 1989) (Claims at issue were directed to a process of sterilizing a polyolefinic composition which contains an antioxidant with high-energy radiation. Although evidence was presented in appellant’s specification showing that particular antioxidants are effective, the Board concluded that these beneficial results would have been expected because one of the references taught a claimed antioxidant is very efficient and provides better results compared with other prior art antioxidants.).*

5. Applicant’s arguments are a substantial replicate of the arguments advanced in the response dated 09/05/07. As noted by the applicant, “Applicant respectfully traverses these rejections for at least the reasons asserted in the Reply filed on September 05, 2007, which reasons are reasserted below” (See 01/10/08 amendment, page 7, last sentence). In reply, the examiner reiterates the responses to argument provided in the prior office action dated 10/12/07.

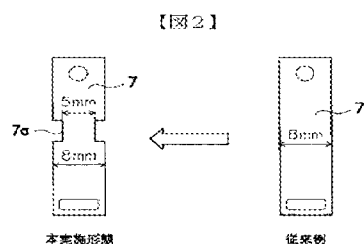
Additionally, it has been noted that applicant is contending the applicability and merits of *In re DeBlauwe*. In response, the examiner makes no comment about the specifics of *In re DeBlauwe* because it is settled law. In any event, applicant should direct those comments to the organization responsible for making such a decision (i.e. the Federal Circuit court). The intention of the examiner was to set the record straight about the importance of submitting objective, scientific or sound evidence for evaluating the merits of a case.

Accordingly, the examiner intended to assert that it is not enough that applicant or applicant's representative personally believes that the prior art *does not perform or teach the specific mechanical advantages of having a curved portion*. That is to say, the arguments of counsel or the applicant cannot take the place of evidence in the record. An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of inherent anticipation/obviousness (See ***MPEP 716.01 and 2145: Consideration of Applicant's Rebuttal Arguments***).

It has been the Examiner's position that the prior art of record is capable of exhibiting those mechanical characteristics at bent/stressed portions of the negative electrode lead. Concerning this matter, it is well to note that the curved portion of applicant's invention is structurally UNDEFINED, and any bent/stressed or curved portion in the battery electrode assembly of the cited art is CAPABLE of showing the same mechanical characteristics. Thus, the examiner remains unconvinced.

6. Applicant has now advanced the argument that the newly added limitation “*the current collector is arranged in a curved portion of the negative electrode lead*” is neither disclosed nor taught by the prior art reference. The examiner respectfully traverses this argument. For instance,

Figure 2 below illustrates constricted portion 7a having at least a curved portion forming a substantially right angle on the negative electrode lead 7.



In advancing this argument, applicant appears to be equating the projecting portion of his electrode lead or the non-planar configuration of his electrode lead to the limitation “*a curved portion*” of the electrode lead. While applicant’s projecting portion or non-planar configuration maybe representative of a curved portion, such a curved portion is not limited only to applicant’s configuration. To assist in determining whether this is right or not, the examiner went to the Merriam-Webster’s Collegiate Dictionary 10th Edition for a definition of the term “curve” and found that “curve” is defined as “bent or formed into a curve”, or “to have or take a turn, change or deviation from a straight line or plane surface”. Therefore, it is believed that constricted portion 7a of the negative electrode 7 of the prior art is either bent or formed into a curve or at least has or takes a turn, change or deviation from a straight line. Therefore, the prior art still anticipates the presently claimed invention.

7. The gist of applicant’s arguments against the JP’614 reference is based on the assertion that “claim 1 recites, inter alia, an electrode assembly for a lithium ion cell...Specifically, Inoue (the JP’614) fails to teach application of Inoue’s invention to a lithium ion cell”. However, this assertion is insufficient to overcome the preceding rejection. In response to applicant’s arguments, the recitation “for a lithium ion cell” has not been given patentable weight because

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the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) & *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

8. In response to applicant's argument that his invention is “*an electrode assembly for a lithium ion cell*”, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, and then it meets the claim.

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. (***Emphasis supplied***→) Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). *In this case, the motivation provided by the examiner is based on the fact that*

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nickel is a conducting metal material which has been recognized in the field of applicant's endeavor as a suitable material for purposes of constructing electrode structures or variants thereof. As a result, those of ordinary skill in the art would find that by using nickel as part of any electrode structure good electrical conductivity within the electrode assembly is achieved.

10. In response to applicant's argument that “*While the Office Action asserts that nickel may be substituted as an electrode lead, the more important question is whether there is suggestion to substitute nickel for Inoue's constricted portion 7a in the dimensions disclosed by Inoue, and whether nickel would be suitable to perform the function of Inoue's constricted portion...*”, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). *The combination of the JP '614 reference with Arai et al '383 is a solid combination for the reasons expressed supra. In consequence, such a combination represents a concrete prima-facie case of obviousness not only for addressing and showing all the claimed limitations but also for providing specific guidance to recognize that nickel can be used as an electrode lead. This provides sufficient specificity to arrive at the conclusion that nickel is a suitable material being used for making electrode leads for the benefits of enhancing conducting characteristics.*

/Raymond Alejandro/

Primary Examiner, Art Unit 1795